CALIFORNIA ENERGY COMMISSION
Radio Frequency Receiver Load Curtailment Systems
Albertson's Stores Project Summary

Project Description:

By installing automated demand and energy reduction equipment, Albertson's stores throughout California are now proactively managing energy use. Sales floor lighting, refrigerated display case lighting, and anti-condensate heater controls are now managed by the new load curtailment system. Upon receiving a call to curtail load from the California Independent System Operator (CAISO), the curtailment system automatically:

- Reduces lighting by approximately 50%, and
- Shuts off display cases lights and reduces resistance heat supplied to reach-in doors by 50%.

The project called for software and hardware enhancements to the existing Energy Management System, and also included the installation of a new Comtrol Energy Management System, a notifact wireless curtailment transceiver and an eLutions Utility Management System. Building systems are controlled with a radio frequency receiver interfaced with the Energy Management System.

Funding Summary:

Albertson's funded two projects:

- **Project 1** planned to install equipment in 195 stores. Ultimately equipment was installed in 189 stores.

- **Project 2** planned to install equipment in 81 stores. Ultimately equipment was installed in 62 stores.

Project 1		**Project 2**	
Total Project Cost	$1,923,616	Total Project Cost	$954,140
Total Grant Award	$1,085,613	Total Grant Award	$499,600
Actual Kilowatt Reduction	3,292	Actual Kilowatt Reduction	1,558
Grant Payment per Kilowatt Reduction	$330	Grant Payment per Kilowatt Reduction	$321

Project Results:

A pilot test was conducted on October 29, 2001 from 2:00pm to 6:00 p.m. The goals of the pilot test were to demonstrate:

- The systems functioned properly,

- The ability to respond to CAISO emergency curtailment signals, and
- The specific achievable kilowatt reduction.

Results were independently verified by Nexant, Inc., using the modified CAISO baseline method and alternative engineering calculations for assessing the additional demand savings from the interactive effects of curtailed loads on non-metered loads. The pilot test was very successful in demonstrating the ability of the equipment to curtail in response to a signal.

Albertson's baseline was lower than it was in previous summers because the stores had voluntarily complied with the Governor's past orders to reduce loads. Most of the stores already had their sales floor lights at 50%, nearly 25 kilowatts per store, when the pilot test was run. The Energy Commission was unable to give credit for this voluntary load curtailment in the pilot test because the baseline was included the five previous days. As the Governor's program winds down, more and more load will be available in times of an actual emergency.

Lessons Learned:

The cost of the Albertson's project is slightly higher than some other peak reduction projects funded by the Energy Commission, because Albertson's installed automatic demand reducing equipment. Less expensive projects also require an investment in communication equipment, but rely on building operators to manually turn off electricity-using equipment. In the long run Albertson's anticipates more persistent peak reduction capability because savings will be less dependent on individual behavior.

Contact Information:

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